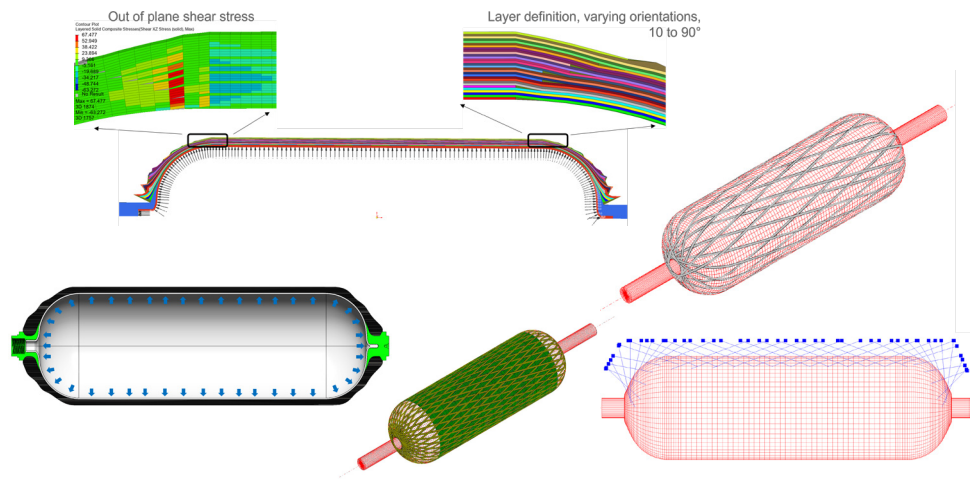


Pressure Vessel Design and Prototyping



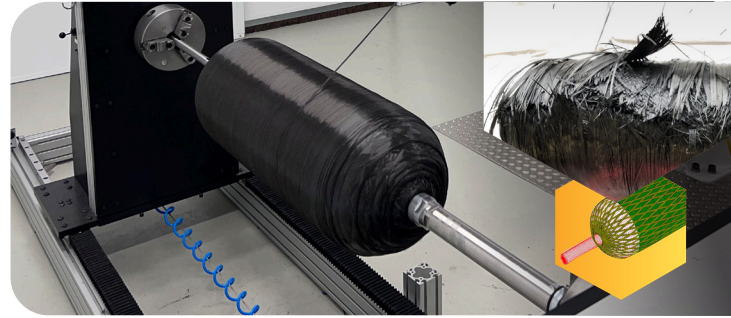
With our technology know-how, simulation methods and production capabilities, we analyse the opportunities for your materials and products.

Pressure Vessel Design and Prototyping



Our assets related to pressure vessels:

- Design, prototype-production and testing of thermoset carbon fibre type IV pressure vessel, including the boss design
- Projects on efficient winding of towpregs and testing of NOL rings
- Cost analysis on different production routes for composite pressure vessels
- Market & technology analysis



How it works – Hydrogen pressure vessel design:

- Selection of a liner
- Selection of towpreg
- Boss design
- Design of a winding pattern for a nominal operating pressure of 350 or 700 bar
- CAE analysis for burst pressure with regulatory safety margins
- Material data will be used as provided, or estimated from micro-mechanics and experience
- Benchmarking of different manufacturing routes

Optional services:

- Production and testing of NOL rings
- Procurement of liner, towpreg and boss parts
- Automated winding and curing of prototype parts
- Burst pressure testing
- Comparative cost and CO₂-impact analysis.

Our Expertise

As a one-stop shop for market and technology know-how, the AZL brings together experts and decision makers from academia and industry of all positions in the value chain, to support business and technology development. Located in the heart of one of the leading high-tech ecosystems, RWTH Aachen University, AZL assists in the development, benchmarking and improvement of composite-based multi-material technologies. In addition, the AZL Partnership framework offers access to an open innovation network with international companies to find solutions for industrial implementation and establishment of lightweight technologies in the market.



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